We claim:

1. A layered composite with at least one decorative surface and comprising a backing layer made from a thermoplastic polymer which is not polypropylene, a decorative layer arranged thereupon and a heat-cured layer applied to the decorative layer.

2. A layered composite as claimed in claim 1, where a decorative layer and a heat-cured layer applied to the decorative layer are present on each side of the backing layer made from a thermoplastic polymer which is not polypropylene.

3. A layered composite as claimed in claim 1, where an intermediate layer is also inserted as bonding material between the backing layer and the decorative layer.

4. A layered composite as claimed in claim 1 and comprising a polystyrene backing layer.

5. A layered composite as claimed in claim 1 and comprising a polybutylene terephthalate backing layer.

6. A layered composite as claimed in claim 1 and comprising a polyoxymethylene backing layer.

7. A layered composite as claimed in claim 1 and also comprising, in the backing layer, from 10 to 60% by weight, based on the total weight of the mixture, of reinforcing material, where this reinforcing material is composed of barium sulfate, magnesium hydroxide, talc, wood, flax, chalk, glass fibers or glass beads.

8. A layered composite as claimed in claim 1, where the decorative layer is composed of a polymeric material which has an embossment or a coloration or a combination of both, or of paper or of a fabric or of a paper-like or fabric-like or wood-like material.

9. A layered composite as claimed in claim 1, where the heat-cured layer arranged on the decorative layer is composed of a thermosetting polymeric material, crosslinked by exposure to pressure or heat during the production of the layered composite.

10. A layer d composite as claimed in claim 1, whose total thickness is from 1 to 20 mm and whose backing layer makes up at least 80% of the total thickness.

11. A process for producing a layered composite as claimed in claim 1, which comprises using the backing-layer material to in-mold coat the decorative-layer and heat-cured-layer materials, both of which are provided in the form of thin flexible films.

12. A process as claimed in claim 11, wherein the reinforced thermoplastic polymer is heated in an extruder to at least 180 °C and then introduced, under a pressure of at least 80 N/cm^2, into the injection-molding compartment of an injection-molding machine, into which the films for the decorative layer and heat-cured layer have previously been placed, and then a holding pressure of at least 10 N/cm^2 is maintained while the mold is cooled to 60°C or above within a period of not more than 4 minutes.